

TITLE: TABLE ADAPTED TO AN INVALID CHAIR ARM

BACKGROUND OF THE INVENTION

(a) Field of the Invention

5 The present invention relates to a table attached to an invalid chair arm, and more particularly, to one that allows both sideboards each to be turned into a table while the arm is turned backward for the invalid to easily sit in the chair sideways.

(b) Description of the Prior Art:

10 Generally, a table is each pivoted to both arms of an invalid chair for the invalid to read or have a meal. The table is lifted up to stay in horizontal position in use. Among all the tables adapted to invalid chairs generally available in the market, there is a structure related to a mobile table adapted to a wheel chair. The mobile table is comprised of an arm, a desktop, a positioning holder and a hanging holder. Wherein, the positioning holder is fixed
15 externally to the arm, the hanging holder is fixed to the desktop, and a hook provided on the hanging holder is inserted into an inner hole provided on the positioning holder to define a turning component. In normal condition, the desktop hangs out to the external side of the arm; and in use, the desktop is turned up with the hook as a turning point to such extent that the desktop
20 horizontally holding against both arms for use. However, the structure is found with the following shortcomings:

1. The desktop is vulnerable to be damaged by constantly bumping to the wheel chair in motion since the desktop in its normal condition suspends freely on external side of the arm.
- 25 2. The desktop in use can be easily turned over resulting in a mess when the invalid is trying to raise his hand or hands due to that the desktop when placed upon horizontally on both arms is not fixed in position.

3. Whereas the invalid can access to the wheel chair from its front side due to that both sides of the wheel chair are blocked by the desktop and arms and a pedal is provided in front of the wheel chair, it's awkward for anyone trying to help the invalid to sit in the chair.

5 4. The invalid sitting in the chair may feel extremely uncomfortable since the desktop is prevented from readjusting its height or the distance depending on the size of the invalid.

SUMMARY OF THE INVENTION

10 The primary purpose of the present invention is to provide a table adapted to an invalid chair arm. Both sideboards of the present invention when in use allows to be lifted up to define a desktop and both arms can be each entirely lifted up to permit the invalid sitting in from either side of the chair. To achieve the purpose, the present invention comprises a chair frame, two arms and two sideboards. Wherein, the chair frame includes on each side a back rod and a seat rod, and a support extending between the back rod and the seat rod.

15 A pivot holder is provided at the connected area of the back rod and the support. The pivot holder includes a retaining lever and a pair of holes to receive insertion of a pivot pin for the pivot holder to pivot the rear end of the arm.

20 The front end of the arm is provided with a vertical hole and a horizontal hole and the rear end is pivoted to the pivot holder to lift up the front end for permitting the invalid to sit in the chair from either side of the chair.

25 The sideboard is provided with a sleeve to allow insertion of the arm. A board extends downward from the sleeve, and a plurality of through holes for adjustment are provided on the circumferential portion of the sleeve.

The through holes of both sideboards are aligned and fastened to their corresponding holes on the arms for both sideboards extending to rest on both arms to define a table.

Another purpose of the present invention is to provide a table adapted to an invalid chair arm that is further comprised of a cap protruding a hollow wall to buckle up corresponding positioning holes provided on the edge of the sideboard so that when both sideboards are horizontally extended, they are secured in position both in the front and in the rear by having the protruding walls from the cap to be abutted to the positioning holes provided on the respective sideboard.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded view of a preferred embodiment of the present invention.

Fig. 2 is a sectional view of an assembly of the preferred embodiment of the present invention.

Fig. 3 is a perspective view showing a state in use of the preferred embodiment of the present invention.

Fig. 4 is a perspective view showing another state in use of the preferred embodiment of the present invention.

Fig. 5 is a side view showing that a sideboard is adjusted back or forth.

Fig. 6 is a perspective view showing another state yet in use of the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Fig. 1, the present invention comprises a chair frame (1), two arms (2), two sideboards (3) and two positioning members (4).

The chair frame (1) includes on each side a back rod (11) and a seat rod (12) connected to each other with a support (13). A pivot holder (14) is provided at the connected area of the support (13) and the back rod (11). The pivot holder (14) includes a retaining lever (141) and a pair of holes (142) to receive insertion of a pivot pin (143) for the pivot holder (14) to pivot the rear end of the arm (2). A locking mechanism (15) provided to the front end of the seat rod (12) includes a lever (151) and a hook plate (152) linked and subject to the motion of the lever (151).

The front end of each arm (2) is provided with a vertical hole (21) and a lateral hole (22). A pivot block (23) is inserted to the rear end of the arm (2). A through hole (231) is laterally provided on the pivot block (23) and a limiting pin (24) is laterally inserted to the front end of the pivot block (23). A positioning bolt (25) is vertically provided at the rear portion of the arm (2) next to the back of the pivot block (23).

Each sideboard (3) is provided with a sleeve (31) containing two holes (311) and (312) arranged in parallel. One of the holes (311) and (312) is selected to receive the insertion of the arm (2). A cap (32) is separately inserted to the front end of the sleeve (31) and a limiting recess (313) is provided relatively at the rear end of the sleeve (31). A plurality of through holes (314) are provided on the circumferential portion of the sleeve (31) for adjustment. A board (33) is extended downward from the sleeve (31). A fixation hole (34), (35) is each provided at the front and the rear ends of the lower edge of the board (33). Two (as illustrated in the drawings, or more than two) restriction grooves (331) each adapted with a restriction lever (332) are provided at the bottom of the board (33) close to its front end. A hollow wall (321) protrudes from the rear end of the cap (32), and a pull ring (322) is

adapted to the surface of the cap (32).

The positioning member (4) is a pin, which may be provided in a form of a tenon, bolt or other fasteners.

Now referring to Fig. 2 for the assembly of the preferred embodiment of the present invention, the pivot pin (143) penetrates the through hole (231) of the pivot block (23) and the pivot holes (142) of the pivot holder (14) to pivot the arm (2). The arm (2) has the positioning bolt (25) provided at its terminal to hold against the retaining lever (141) to allow the arm (2) to be held in horizontal.

To limit the distance of the sideboard (3) to the arm (2), the hole (311), or another hole (312) depending on the right or the left arm, of the sleeve (31) receives the arm (2) to merely for the limiting recess (313) at the rear end of the sleeve (31) and the limiting pin (24) penetrating the arm (2) to be interlocked to each other. Meanwhile, the sideboard (3) is prevented from executing concentric revolution in relation to the arm (2). One of the through holes (314) of the sleeve (31) is selected to be overlapped with the lateral hole (22) of the arm (2) and fastened with the positioning member (4) for the board (33) of the sideboard (3) to hang below the arm (2). Finally, the hook plate (152) inside the locking mechanism (15) is placed into one of the restriction grooves (331) at the lower edge of the sideboard (3) to be mutually restricted with the restriction lever (332) provided in the restriction groove (331). Consequently, the sideboard (3) hangs below the arm (2) and is held in position by the side of the chair frame (1), thus further for both arms (2) respectively adapted with their corresponding boards (33) to become two fixed guards on both sides of the chair frame (1).

Accordingly, the through holes (314) on the sleeve (31) and the restriction grooves (331) at the lower edge of the sideboard (3) allow the adjustment for a proper distance for the sideboard (3) on the arm (2) by the selected through hole (314) and the restriction groove (331).

Whereas the arm (2) is pivoted with the pivot pin (143) to the pivot holder (14), the arm (2) can be lifted up in parallel with the back rod (11) relatively to the pivot holder (14) to permit easy access to the invalid chair from either side. As illustrated in Figs. 2 and 3, the locking mechanism (15) adapted to the seat rod (12) is released to disengage the hook plate (152) from the locking by the restriction lever (332) provided at the bottom of the sideboard (3); then the sideboard (3) together with the arm (2) is lifted up to stay in parallel with the back rod (11). The positioning member (4) inserted in the through hole (314) of the sideboard (3) is removed to turn over the board (33) of the sideboard (3) backwards for a person to help the invalid sit in or leave the chair from either side of the chair.

When either sideboard (3) is required for use, the lever (151) of the locking mechanism (15) is pulled to release the hook plate (152) from the restriction lever (332) inside the restriction groove (331) at the bottom of the sideboard (3). The positioning member (4) inserted laterally in the lateral hole (22) on the arm (2) is removed as illustrated in Fig. 4 for the sideboard (3) otherwise in parallel with the back rod (11) is lifted to its horizontal position. The positioning member (4) is vertically inserted into the vertical hole (21) of the arm (2) in relation to the selected through hole (314) on the sideboard (3) for the sideboard (3) to maintain its horizontal position, thus to form a table on the arm (2) of the chair frame (1) to provide hand support for the invalid, place whereon certain objects of the invalid, or rest an arm of the invalid to take the drip infusion.

Furthermore, the through holes (314) arranged in parallel on the sleeve (31) of the sideboard (3) allow adjustment of the relative distance of the sideboard (3) on the arm (2) to cope with the size of the individual invalid. As illustrated in Fig. 5, the relative distance of the sideboard (3) on the arm (2) is adjusted first for the selected through hole (314) to overlap with its corresponding hole (21) provided on the arm (2), and the positioning member (4) is vertically inserted through both overlapped holes (314) and (21) to secure the

sideboard (3) with an optimal distance between the sideboard (3) and the invalid for the invalid to feel more comfortable.

Now referring to Fig. 6, both the sideboards (3) define a firm and solid table for the chair. Both the sideboards (3) otherwise placed vertically are
5 flipped over to such extent that they are in parallel with the seat rod (12). Both the caps (32) respectively plugging the end of each sleeve (31) are then removed to respectively insert on the front ends and the rear ends of the external sides of both the boards (33) that meet in a plane defined between both the sleeves (31) while both the hollow walls (321) inside their respective caps (32) buckle up
10 their corresponding positioning holes (34) and (35) for both the sideboards (3) to form a firm and solid table on the chair frame (1) as secured by both the caps (32).

The present invention can be also applied to other types of the invalid chair, such as a walker, or a power wheel chair.

15 It should be noted that the arm (2) of the present invention may be made in other geometric forms, such as a rectangular or angular one other than a round one as illustrated in the preferred embodiment, and the shape of the holes (311) and (312) inside the sleeve (31) thus shall compromise that of the arm so elected.

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